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DOE/RL-95-47
Draft A

Proposed Plan for the 100-IU-4 Operable Unit

United States
Department of Energy
Richland, Washington

Approved for Public Release

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Date Published
April 1995

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Department of Energy
P.O. Box 550
Richland, Washington 99352

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PROPOSED PLAN FOR THE 100-IU-4 OPERABLE UNIT

Hanford Site, Richland, Washington

DOE, EPA, AND ECOLOGY ANNOUNCE PROPOSED PLAN

This proposed plan identifies the preferred alternative for the 100-IU-4 **Operable Unit**, known as the Sodium Dichromate Barrel Landfill, located at the Hanford Site (Figure 1). It also summarizes detailed information contained in the *Sodium Dichromate* ***Expedited Response Action*** *Assessment Report* (DOE/RL-93-64). The proposed plan is intended to be a fact sheet for public review that summarizes the information relied upon to recommend the preferred alternative.

This proposed plan is being issued by the Washington State Department of Ecology (Ecology), the lead regulatory agency; the U. S. Environmental Protection Agency (EPA), the support regulatory agency; and the U.S. Department of Energy (DOE), the responsible agency. Ecology, the EPA, and the DOE are issuing this proposed plan as part of their public participation responsibilities under Section 117(a) of the ***Comprehensive Environmental Response, Compensation and Liability Act*** **(CERCLA)** commonly known as the "Superfund Program," and the *National Environmental Policy Act of 1969*.

As presented in this proposed plan, no further action is the preferred alternative for the final resolution of the 100-IU-4 Operable Unit. The preferred alternative is recommended because all suspect hazardous substances have been removed from the site and it is unlikely that site poses a no significant risk to public health or the environment.

This preferred alternative is the initial recommendation of Ecology, EPA, and DOE. The alternative will be selected only after the public has had the opportunity to comment on this recommendation, and all comments have been reviewed and considered. Comments may be made in person at the public meetings or may be submitted in writing. Written comments must be submitted by _____. Public comments will be addressed in a responsiveness summary as part of the record of decision (ROD), which is the legal decision that specifies the cleanup remedy.

Send written comments to:
Dib Goswami, Unit Manager
Washington State Department of Ecology
1315 W. 4th Ave
Kennewick, WA 99336-6018

The public is encouraged to review the *Sodium Dichromate Expedited Response Action Proposal* (DOE/RL-93-25). The Administrative Record, which contains this document and other information used in the selection of the preferred alternative, is available for review at the information repositories identified at the end of this proposed plan.

MARK YOUR CALENDAR

A 45-day public comment period for the 100-IU-4 Operable Unit proposed plan is scheduled from _____, 1995 through _____, 1995.

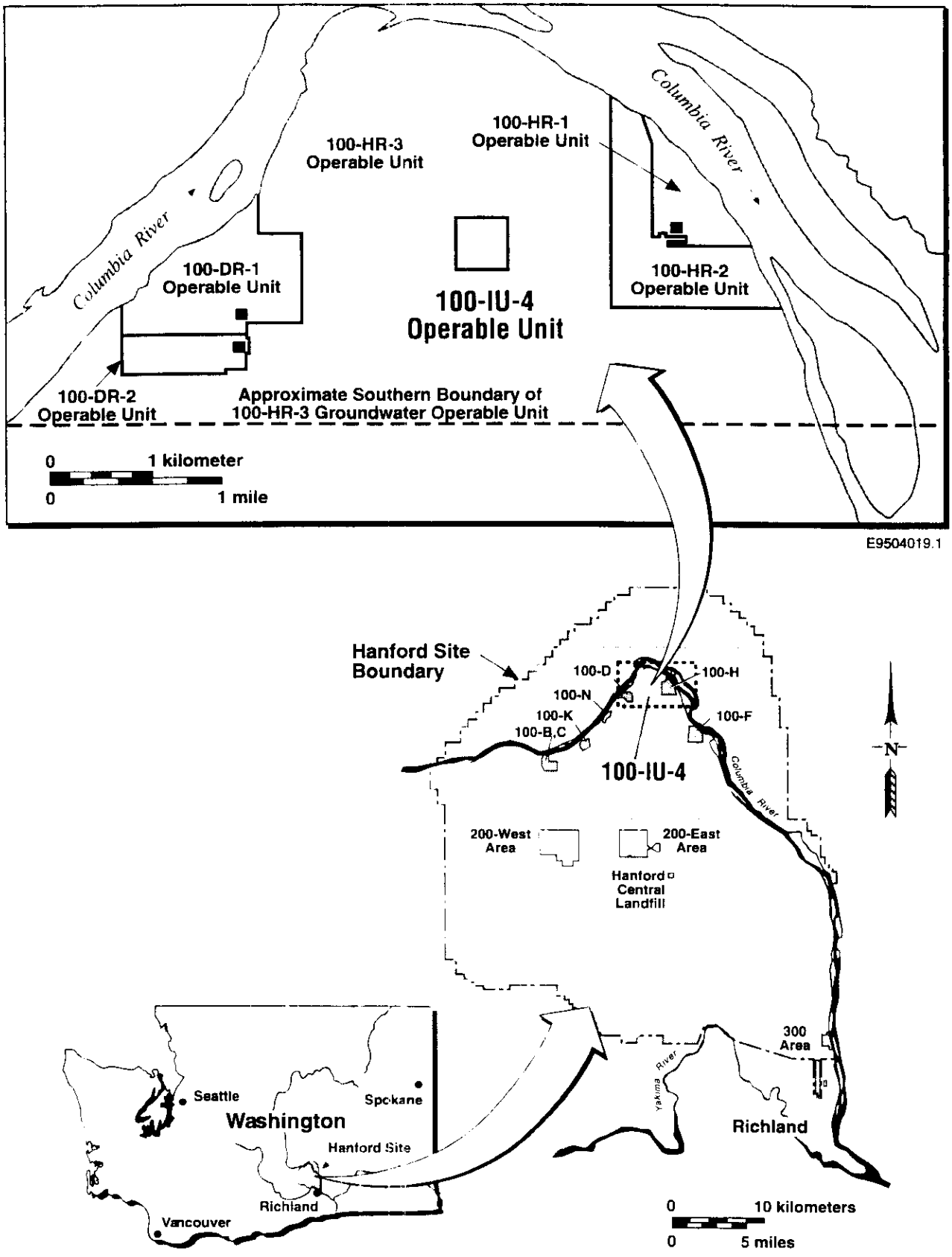
A public meeting on this proposed plan will be held as follows:

Date: ???
Time: ???
Place: ???

You will have an opportunity at the meeting to direct questions to Ecology, EPA, and DOE representatives and comment on the preferred alternative.

Technical terms and other text in bold are defined in the glossary at the end of this document.

Figure 1. 100-IU-4 Operable Unit



SITE BACKGROUND

The Hanford site is located in southeastern Washington (Figure 1). The 100 Area of the Hanford Site is located along the Columbia River and includes nine DOE nuclear reactors that were used for plutonium production between 1943 and 1987. In November 1989, the EPA placed the 100 Area on the **National Priorities List** because of soil and groundwater contamination resulting from past operation of the nuclear facilities.

The 100-IU-4 Operable Unit is located within the 100 Area of the Hanford Site between the 100-D and 100-H Reactor Areas (Figure 1). The overall area is about 469 meters (1,540 feet) by 91 meters (300 feet). Little historical documentation for the site is available. During the years of reactor operations, sodium dichromate was added to reactor cooling water as a soluble corrosion inhibitor. Consequently, large quantities of sodium dichromate were delivered in barrels to the Hanford Site. In 1945 the 100-IU-4 Operable Unit became a disposal area for crushed, empty barrels that had contained the sodium dichromate. The site is not known to have received significant quantities of other waste types. The Sodium Dichromate Barrel Landfill is the only waste site located within the 100-IU-4 Operable Unit. **Groundwater** beneath the 100-IU-4 Operable Unit is part of the 100-HR-3 Operable Unit.

The 1990 *Hanford Federal Facility Agreement and Consent Order* stated that where immediate danger to the public or environment is possible, expedited response actions should be pursued to accelerate remediation of the Hanford Site. An expedited response action is the mechanism that allows for the elimination of potential hazards that can be an immediate threat to the public or environment. Because hexavalent chromium is a carcinogen and poison, in 1992 Ecology and the EPA selected the Sodium Dichromate Barrel Landfill for remediation as an expedited response action.

In 1992, DOE prepared an Engineering Evaluation/Cost Analysis concerning technologies applicable to the sodium dichromate landfill. The evaluation and cost analysis are summarized in the *Sodium Dichromate Barrel Landfill Expedited Response Action Proposal* (DOE/RL-93-25). The proposal was reviewed by the EPA and Ecology, and was made available for a 30 day public comment period. The majority of public comments favored complete excavation and removal of the empty crushed barrels from the site. An Action Agreement Memorandum issued on March 1993 by Ecology and the EPA directed the DOE to excavate all waste materials buried at the site as an expedited response action. The waste materials were to be disposed of at the Hanford Central Landfill (Figure 1).

EXPEDITED RESPONSE ACTION SUMMARY

Excavation activities began March 17, 1993 and ended April 26, 1993. Four burial locations (previously identified by ground penetrating radar surveys) and twenty-six surface locations contained crushed, empty sodium dichromate barrels. Cleanup was accomplished with the use of a crawler excavator to remove the waste and dump trucks to transport the waste to the Hanford Central Landfill. The Hanford Central Landfill received approximately five thousand crushed barrels and various homestead debris (wire fencing, wooden posts, and other miscellaneous debris). Disposal of all waste materials was performed in compliance with applicable regulations.

During excavation of the crushed drums, 106 field measurements for sodium dichromate were taken from the soil surrounding the drums. These measurements were taken to determine if site soils had been contaminated and would also require excavation. In addition, 56 soil samples were collected for chromium analysis and were sent to an offsite laboratory for confirmation that no chromium contamination remained in the soil after the barrels were excavated. Soil samples analyzed as part of the expedited response actions showed that there were no chromium levels in the soil that would constitute a threat to human health or the environment.

SUMMARY OF SITE RISKS

Risk calculations presented in the *Sodium Dichromate Barrel Landfill Expedited Response Action Proposal* (DOE/RL-93-25) identified chromium as the **contaminant of concern** in the soil at the 100-IU-4 Site. Laboratory analytical results obtained during and after the barrel removal indicate that the contaminants of concern are present below background concentrations. The concentrations of the contaminants of concern do not exceed the risk-based standards defined in the State of Washington's *Model Toxics Control Act*, Method A soil cleanup standards.

The risk calculations indicate that there is unlikely to be significant risk to human health or the

environment associated with the constituents detected in the soil at the 100-IU-4 Operable Unit.

PREFERRED ALTERNATIVE

The expedited response action concluded that the landfill poses no significant threat to human health or the environment. Therefore, the preferred alternative recommended for the 100-IU-4 Operable Unit is no further action. Ecology and EPA support the no further action alternative.

SUPPORTING DOCUMENTS

The public is encouraged to review the following documents to gain a better understanding of the 100-IU-4 Operable Unit:

- *Sodium Dichromate Expedited Response Action Assessment Report* (DOE/RL-93-64), Rev. 1
- *Sodium Dichromate Barrel Landfill Expedited Response Action Proposal* (DOE/RL-93-25) Rev. 0

ADMINISTRATIVE RECORD

The Administrative Record can be reviewed at the following locations.

U. S. Department of Energy - Richland Operations
Public Reading Room
2440 Stevens Center Place
Richland, Washington 99352
509/376-7411
Hrs: Mon-Fri 8-12am and 1-4:30pm

EPA Region 10
Superfund Record Center
1200 Sixth Avenue
Park Place Building, 7th Floor
Mail Stop: HW-074
Seattle, Washington 98101
206/553-4493
Hrs: 8am - 4:30pm

Washington State Department of Ecology
Nuclear Waste Library
719 Sleater-Kinney Road SE
Capital Financial Building, Suite 200
Lacey, Washington 98503
206/407-7097
Hrs: Mon-Fri 8am - 5pm

POINTS OF CONTACT

Department of Energy Representative
Glen Goldberg
100 Area Manager
509/376-9552

U.S. Environmental Protection Agency Representative
EPA (Region 10)
Pamela Innis
Unit Manager
509/376-8665

Washington State Department of Ecology Representative
Dib Goswami
Unit Manager
509/736-3027

INFORMATION REPOSITORIES

Supporting documents are available for review at the following repositories:

University of Washington, Suzzallo Library
Government Publications Room
Mail Stop FM-25
Seattle, Washington 98195

Gonzaga University, Foley Center
E. 502 Boone
Spokane, Washington 99258

Portland State University, Branford Price Millar Library
Science and Engineering Floor
SW Harrison and Park
P.O. Box 1151
Portland, Oregon 97207

U.S. Department of Energy Richland Public Reading Room
Washington State University, Tri-Cities
100 Sprout Road, Room 130
Richland, Washington 99352

GLOSSARY

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - This is a federal law that establishes a program that enables the Environmental Protection Agency to identify hazardous waste sites, ensure that they are cleaned up, and allow other government entities to evaluate damages to natural resources. CERCLA is also known as the "Superfund law." CERCLA applies to the 100-HR-1 Operable Unit.

Contaminant of Concern - These are chemical and radioactive constituents that must be addressed by remedial action.

Expedited Response Action (ERA) - A response action that could be taken to address contamination problems that pose time critical risks.

Groundwater - Underground water that fills the spaces between particles of soil, sand, gravel, or fractures in rocks.

National Priorities List - A list of top-priority hazardous waste sites in the United States that are eligible for investigation and cleanup under the Superfund program.

Operable Unit - This is a subset of a larger Superfund CERCLA site, typically the subject of operable unit-specific investigations and remedial actions. These units are located near the reactors.